Claim 12 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Hosoda et al in view of Hitchcock.

Claim 14 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Hosoda et al in view of Bertsch.

Claim 16 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Hitchcock in view of Hurley et al.

By the claims having been limited to embodiment b), the rejections predicated on Hosoda et al clearly have been obviated and have become moot. With regard to the rejection predicated on Hitchcock, the following is submitted in traversal thereof.

The invention to which the claims have been now limited relates to a process for preparing a sheet of a crosslinked polyolefin foam expanded in an essentially unidirectional expansion only in its thickness, comprising surface-crosslinking one or both faces of an intermediate polyolefin sheet to be expanded, these faces being perpendicular to the direction of expansion, and expanding and crosslinking the so formed sheet only in its thickness.

The claimed process obviates problems associated with prior art procedures and results in a foamed product of superior properties, as so shown by the examples in the case. Specifically, by blocking lateral expansion of the foam during its expansion, unidirectional expansion only in its thickness is permitted. This is accomplished by the claimed embodiment which embodiment manifestly is not obvious.

More particularly, Hitchcock relates to the preparation of a foamed thermoplastic resin sheet by conveying a radiation crosslinked, plastic resin sheet in a horizontally supported state while applying uniform tension to the edge of the width of the foamed sheet. In other words, while freely permitting expansion in the thickness of the sheet, expansion is also effected in the length and width directions, i.e., the foamed sheet having a substantially

uniform orientation across the sheet. No unidirectional expansion only in the thickness of the sheet thus is present in the sheet of Hitchcock.

The Examiner asserts that the sheet undergoes unidirectional expansion in its thickness while in the foaming chamber to form a foam sheet due to the pull rollers advancing the sheet at a rate of speed roughly equivalent to the forward rate of the sheet in order to maintain an even pull (tension) across the face of the sheet.

However, such assertion is contraindicated by the examples in this reference. Specifically, as is evident from Example 1, the width of the sheet fed into the horizontal hot air expansion apparatus was 30 inches. After expansion, however, its width had increased to approximately six feet, i.e., 72 inches, a more than twice increase in width. Note column 5, lines 39 and 59-60. The same is true in Example 2, as note column 6, line 36. Manifestly, thus, expansion is not unidirectional only in the thickness, but also in width. While substantial uniform orientation is effected by Hitchcock across the web, such uniform orientation also involves width, contrary to the express requirement of the claims.

Hurley et al is relied upon by the Examiner only for asserted obviousness of a subsidiary claimed feature. As such, it manifestly does not cure the basic deficiencies of Hitchcock to make obvious the claimed invention.

Accordingly, withdrawal of the rejection of the claims under 35 U.S.C. § 102 and § 103 is requested.

With regard to the objections to the claims, Claims 11 and 12 have been cancelled, thus rendering moot the objection thereto. It is pointed out, however, that Claims 11 and 12 were directed to the two separate and distinct embodiments of Claim 10, respectively, and were not duplicates of Claim 10.

The objection to Claim 15 has been obviated by an appropriate correction.

It is submitted that this application is now in condition for allowance and which is solicited.

Respectfully submitted,

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IN THE CLAIMS

--10. (Amended) A process for preparing a sheet of a crosslinked polyolefin foam expanded in an essentially unidirectional expansion only in its thickness, comprising [either:

a) adhering a support to one or both faces of a crosslinked intermediate polyolefin sheet to be expanded, these faces being perpendicular to the direction of expansion, and unidirectionally expanding the so formed sheet only in its thickness, or

b)] surface-crosslinking one or both faces of an intermediate polyolefin sheet to be expanded, these faces being perpendicular to the direction of expansion, and expanding and crosslinking the so formed sheet only in its thickness.

11-12. (Cancelled).

14. (Cancelled).

15. (Amended) The process according to Claim 10, wherein the polyolefin foam comprises at least 20% by weight of a polyethylene or of an essentially linear ethylene copolymer having a density of 0.80 to 0.96 g/cm[2]3.--

18. (New)

19. (New)